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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,175	06/01/2001	Robert Ghanea-Hercock	36-1527	2020

7590 11/30/2005

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EXAMINER	
EL HADY, NABIL M	
ART UNIT	**PAPER NUMBER**
2152	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/700,175	GHANEA-HERCOCK ET AL.	
	Examiner	Art Unit	
	Nabil M. El-Hady	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-20,29 and 31-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-20, 29, 31-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/6/2005 has been entered.

2. Claims 1-37 are pending in this application. Claims 1, 21-28, and 30 are cancelled. Claims 36 and 37 are new. Claims 2-20, 29, and 31-37 are presented for examination.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action

4. Claims 26, 2-20, 29, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following phrases are not clearly understood and render the claim vague:

a) "said data comprising each heterogeneous program code ", claim 36, lines 7-8, it is unclear what "each" means in the context of the phrase;

b) "the at least one heterogeneous program each comprise code", claim 12, lines 1-2; it is unclear what "each" means in the context of the phrase;

c) "said first computer is arranged to receive status data from the or each said monitoring program", it is unclear what " or each" means in the context of the phrase;

B. The following lack antecedent basis:

a) "said second computer", claim 36, line 7, line 9, and line 12;

b) "the second computer", claim 36, line 10;

c) "said heterogeneous programs", claim 36, line 9, line 12, and line 16; claim 9, lines 2-3;

d) "each heterogeneous program", claim 7, lines 2-3;

e) "the at least one heterogeneous program", claim 11, lines 2-3, claim 12, lines 1-2;

f) "said second computer", claim 29, lines 4-5;

g) "the second computer", claim 29, line 7;

h) "the heterogeneous programs", claim 37, line 11, line 13, and line 14;

i) "said computers", claim 4, line 3;

l) "said at least one second computer", claim 6, lines 2-3;

m) "the at least one heterogeneous program", claim 11, lines 2-3; claim 12, lines 1-2, and line 3;

5. Claims 2-4, 6, 11-13, 29, 31, 32, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aridor et al. (Agent Design Patterns: Elements of Agent Application Design, Proceedings of the 2nd International Conference on Autonomous Agents, 9-13 May 1998), hereafter "Aridor", in view of Berghoff et al. (Agent-based configuration management of distributed applications, 1996), hereinafter "Berghoff".

6. Aridor is cited by the examiner in a previous office action, and Berghoff is cited by the applicant in IDS paper filed 6/1/2001.

7. As to claim 29, Aridor discloses a method of remote computing comprising supplying a plurality of parallel processing task programs (sec. 3.2, Task patterns are concerned with breakdown of tasks and delegating them to one or more agents, a given task can be accomplished by multiple agents working in parallel and cooperating to accomplish it) from a first computer to at least one second computer (sec. 2 INTRODUCTION , a mobile agent has the ability to transport from one computer to another to allow a mobile agent to move to a computer that contains an object with which the agent want to interact, and then to take advantage of being in the same computer or network as that object); and co-ordinating operation of the task programs through the coordinating program (sec. 3.3, Interaction Patterns are concerned with locating agents and facilitating their interaction).

8. Aridor does not necessarily disclose supplying a co-ordinating program from said first computer to said second computer. However, one skilled in the art at the time of the invention would have applied the same concept of Aridor and considered it as obvious to supply a co-ordinating program from said first computer to said second computer for the same reason of allowing a mobile agent (co-ordinating program) to move to a computer that contains an object with which the agent want to interact (the plurality of parallel processing task programs), and then to take advantage of being in the same computer or network as that object. As Aridor discloses in sec. 2, INTRODUCTION, this will reduce network traffic, provide an effective means of overcoming network latency.

9. Berghoff is cited by the examiner to assert the importance of "moving the code that handles the interaction more closely to the source of the data. Given adequate support, they [mobile agents] can also actively seek out locations where their tasks can be fulfilled most efficiently", p54, right column, last paragraph. Obviously the concept is applied to all kinds of mobile agents including the co-ordinating one. The concept of having the co-ordinating agent at the same location with other managed agents is clearly emphasized in Berghoff's disclosure of p.56, left column, and first paragraph.

10. As to claim 36, the claim is rejected for the same reasons as claim 29 above. Moreover, network computing is fundamentally heterogeneous as presented by the heterogeneous agent designs disclosed by Aridor. In addition, Aridor discloses the concept of a code for communicating with the first computer as in a master/slave relationship, where a slave agent (as a co-ordinating agent placed at the second computer) reports back to the master agent (remaining in the first computer) (sec. 3.2 Task patterns). Also, it is obvious that a co-ordinating program would be executed in parallel with the heterogeneous programs that are co-ordinated by it.

11. As to claim 37, the claim is rejected for the same reasons as claims 29 and 36 above. In addition, Aridor discloses that the execution of at least one of the heterogeneous programs performs at least part of the task (sec. 3.2 Task Patterns).

12. As to claims 2-4, 6, 31, and 32, Aridor discloses said co-ordinating program comprises code for transmitting said co-ordinating program and said plurality of heterogeneous programs to another computer, in response to a predetermined criterion (3.1, Traveling Patterns), and is

arranged to determine one of a plurality of computers to move to (3.1, Traveling Patterns), and to store a sequence defining an order of preference of said computers to move to (3.1, Traveling Patterns).

13. As to claims 11 and 12, Aridor discloses the co-ordinating program is arranged to be capable of removing each of said at least one heterogeneous program from the second computer and to terminate execution thereof (Task Patters an Interaction Patters in Aridor for each of the heterogeneous programs), and the heterogeneous programs each comprise code for causing the second computer to remove and terminate themselves, and are arranged to do so in the absence of a signal from the co-ordinating program under predetermined conditions (Task Patters and Interaction Patters in Aridor for each of the heterogeneous program).

14. As to claims 13 and 35 , the claims are rejected for the same reasons as claims 29, 36, and 37, above. In addition, Berghoff discloses the first computer is programmed to access plural number of said second computers; to determine, for each, whether it will support said co-ordinating program and said plurality of heterogeneous computer programs, and, where a second computer will not support a said co-ordinating program and said plurality of heterogeneous computer programs , to transmit thereto, and cause to execute thereon, a support program to adapt said second computer to support said co-ordinating program and said plurality of heterogeneous computer programs. Berghoff discloses sending a stationary agent as a supporting environment to the mobile program executed on the second computer (p 55, left column, 2nd paragraph; and right column 3rd paragraph).

15. Claims 5, 7, 8, 14-20, 33, and 34, are rejected under 35 U.S.C. 103(a) as being unpatentable over Aridor in view of Berghoff and further in view of Kozuka (US 6,289,394).

16. Kozuka is cited by the examiner in a previous office action.

17. As to claims 5, 7, 8, and 34, Aridor's Task Patterns for agents would read on applicant disclosed limitations of monitoring code for monitoring the status of said second computer, and control each heterogeneous program in dependence upon said monitoring (Master-Slave; Plan, Fig. 2; and Facilitator Pattern, p 110, left column, 3rd paragraph), and control the number of said heterogeneous programs in dependence upon said monitoring (creating other agents as slaves). Moreover, Kozuka, discloses agent monitoring and controlling other agents (abstract). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Aridor, Berghoff, and Kozuka because Kozuka's monitoring and controlling capability of the mobile program would simply make the applications more flexible, understandable, and reusable (see, Aridor's abstract).

18. As to claims 14, 15, and 33, the claims are rejected for the same reasons as claims 29, 36, and 37 above. In addition, Aridor discloses the first computer is programmed to transmit, to a plurality of said second computers via said link, data defining a monitoring program comprising monitoring code for monitoring a respective said second computer, and code for communicating with said first computer (Task Patterns, Master-Slave; Plan, Fig. 2; and Facilitator Pattern, p 110, left column, 3rd paragraph in Aridor); and said first computer is arranged to receive status data from the or each said monitoring program and to control the

operation of said the or each said co-ordinating program and the plurality of heterogeneous programs in dependence thereon (Kozuka's abstract).

19. As to claims 16-20, the claims are rejected for the same reasons as claims 29, 36 and 37 above. In addition, it would have been obvious to one skilled in the art at the time of the invention to tailor a monitoring code to specifically monitor the memory, the utilization of the processor, the storage capacity, use of an input device, or a battery of said second computer.

20. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aridor in view of Berghoff and further in view of Objectspace Inc, Objectspace Voyager core Package Technical Overview, 12/1997), hereafter "Objectspace".

21. Objectspace is cited by the applicant in IDS paper filed 6/1/2001.

22. As to claims 9 and10, Aridor discloses said at least one heterogeneous program comprises code for transmitting said heterogeneous program to another computer (agent has the unique ability to move itself from one computer to another (sec. 2 INTRODUCTION). Aridor does not explicitly disclose a move instruction from said first program. Objectspace, however, discloses a move instruction (p 10).

23. Applicant's arguments filed 11/12/2004 have been fully considered but they are moot in view of the new ground(s) of rejection.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nabil M. El-Hady whose telephone number is (571) 272-3963. The examiner can normally be reached on 9:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 28, 2005

Nabil El-Hady, Ph.D, M.B.A.
Primary Examiner
Art Unit 2152